



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,573	10/02/2003	John M. Grant	SC12480TP	9304
23125	7590	11/03/2004	EXAMINER	
FREESCALE SEMICONDUCTOR, INC. LAW DEPARTMENT 7700 WEST PARMER LANE MD:TX32/PL02 AUSTIN, TX 78729			TRAN, MINH LOAN	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/677,573

Applicant(s)

GRANT ET AL.

Examiner

Minh-Loan T. Tran

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 11-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/02/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group II, claims 11-20 in the reply filed on 07/12/2004 is acknowledged.

### ***Information Disclosure Statement***

2. The Information Disclosure Statement filed on 10/02/2003 has been considered.

### ***Oath/Declaration***

3. The oath or declaration filed on 10/02/2003 is acceptable.

### ***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the second diameter being **equal to** the first diameter" or "the fourth diameter being **equal to** the third diameter" as recited in claims 11, 14, 15, 16, 18, 19 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

Art Unit: 2826

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

5. The disclosure is objected to because of the following informalities:

Applicants are requested to update the information of the related application on page 1 of the specification.

Appropriate correction is required.

### ***Claim Objections***

6. Claims 11-20 are objected to because of the following informalities:

In claim 11, lines 8 and 9, "the second diameter being **equal to or greater than** the first diameter" should be changed to -- the second diameter being **greater than** the first diameter—for being consistent with the drawings.

In claim 14, lines 4 and 5, "the fourth diameter being **equal to or greater than** the third diameter" should be changed to -- the fourth diameter being **greater than** the third diameter -- for being consistent with the drawings.

In claim 15, lines 4 and 5, "the fourth diameter being **equal to or greater than** the third diameter" should be changed to -- the fourth diameter being **greater than** the third diameter -- for being consistent with the drawings.

In claim 16, line 6, "the second diameter being **equal to or greater than** the first diameter" should be changed to -- the second diameter being **greater than** the first diameter -- for being consistent with the drawings.

In claim 18, lines 4 and 5, "the fourth diameter being **equal to or greater than** the third diameter" should be changed to -- the fourth diameter being **greater than** the third diameter -- for being consistent with the drawings.

In claim 19, lines 4 and 5, "the fourth diameter being **equal to or greater than** the third diameter" should be changed to -- the fourth diameter being **greater than** the third diameter -- for being consistent with the drawings.

Appropriate correction is required.

***Allowable Subject Matter***

7. Claims 11-20 are allowed.

The prior art of record taken either singly or in combination fails to anticipate or fairly suggest the limitations which the Applicants claim in claims 11-20 in a manner which would warrant a rejection under 35 U.S.C. § 102 or 35 U.S.C. § 103.

There was no prior art found by the examiner that suggested modification or combination with the cited prior art so as to satisfy the combination of the present independent claims 11 and 16; especially, the prior art does not disclose filling the first opening and a portion of the second opening with a first single crystal semiconductor material having a relaxed state by having defects for a controlled depth from the single crystal substrate to a predetermined height; a remainder of the first single crystal semiconductor material not having defects; filling a remaining portion of the second

Art Unit: 2826

opening with a second single crystal semiconductor material that is strained by having a predetermined thickness that does not exceed a critical thickness where defects begin to form.

### ***Conclusion***

8. This application is in condition for allowance except for the following formal matters noted above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Loan T. Tran whose telephone number is (571) 272-1922. The examiner can normally be reached on Monday-Friday 9:00 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2826

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mlt



Minh-Loan T. Tran  
Primary Examiner  
Art Unit 2826